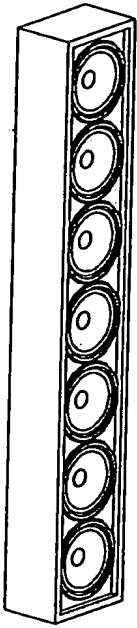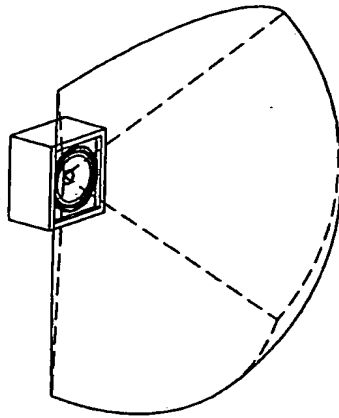Fig. 1A - Vertical
sound line

Fig. 1B - Spherical
sound line

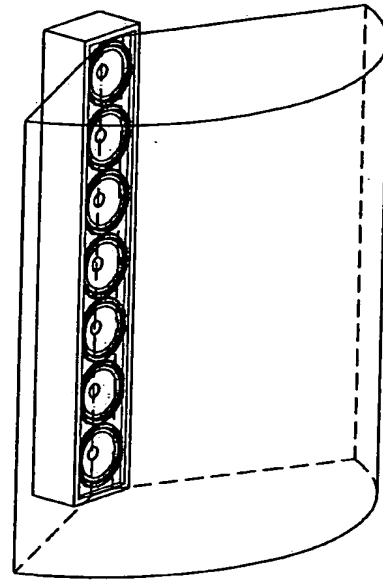Fig. 1C - Cylindrical
sound line
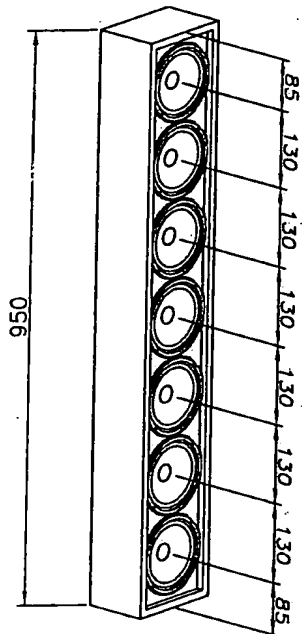
Fig. 2A – Dimensional
example of vertical
sound line

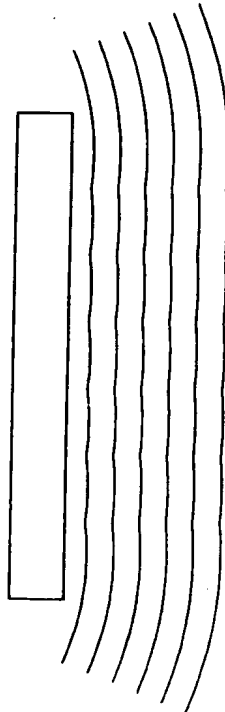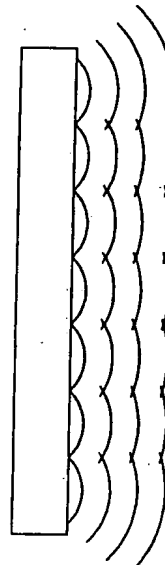Fig. 2B – 1000 Hz

Fig.2C – 2000 Hz
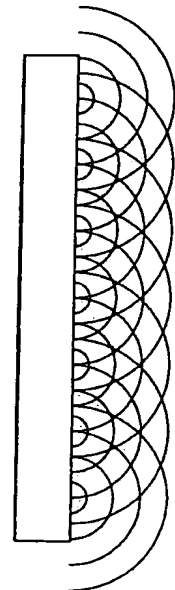
Fig. 2D - Over
2000 Hz
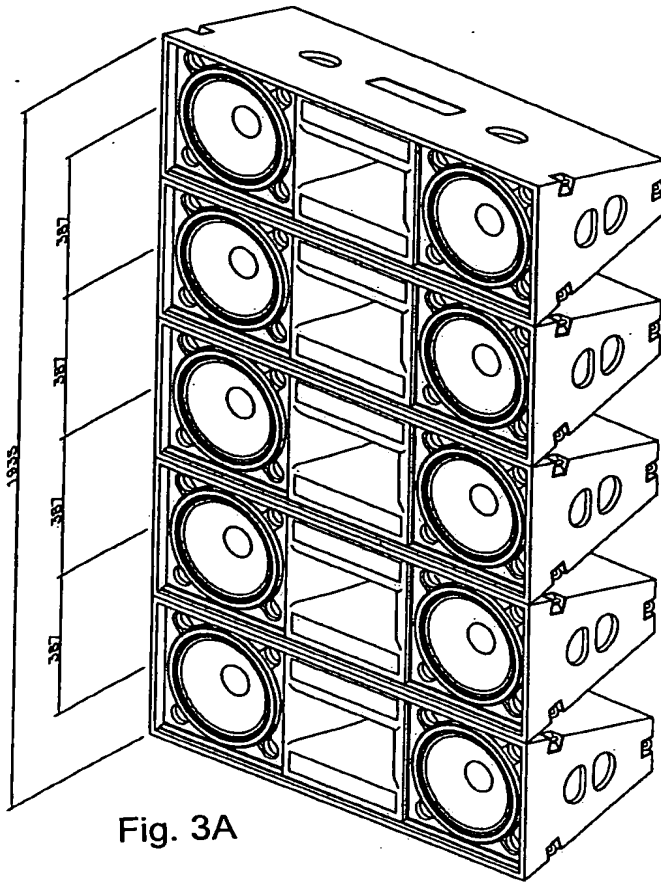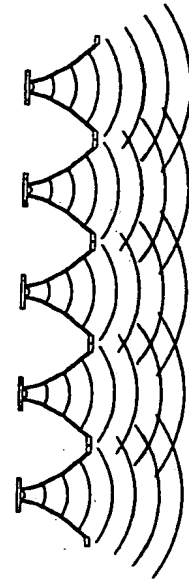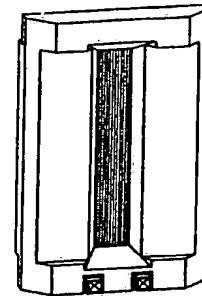
Fig. 3A

Fig. 3B

Fig. 4A

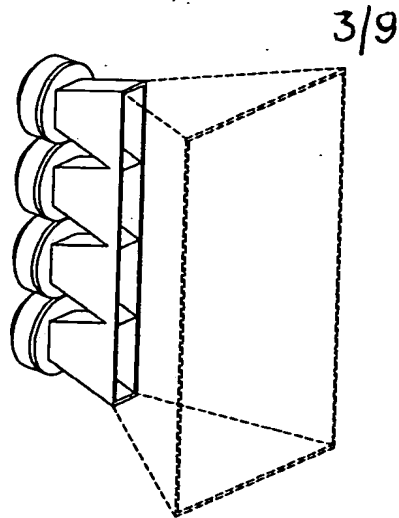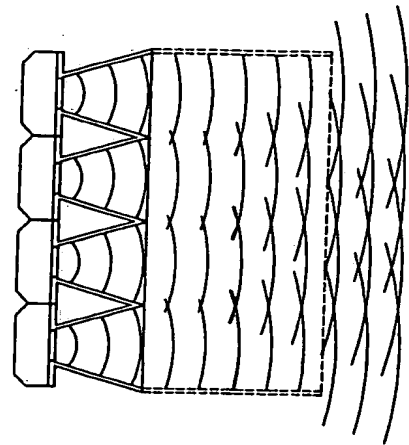Fig. 4B
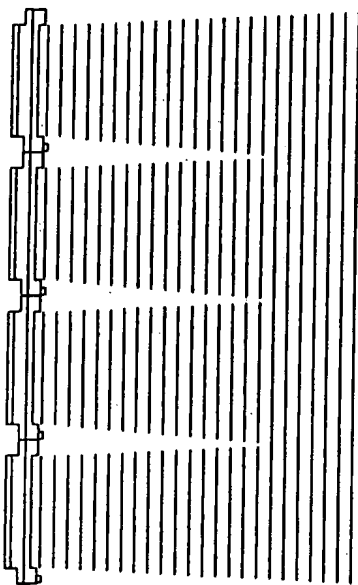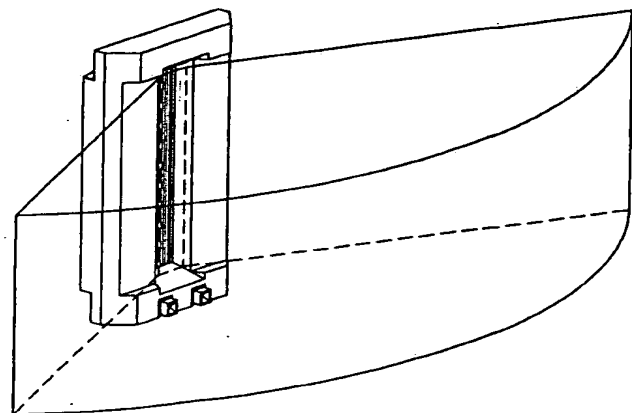
Fig. 4C
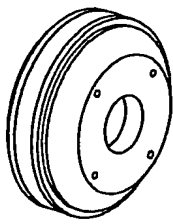
Fig. 5A

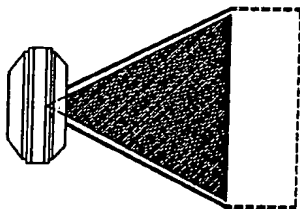**Fig. 5B**

Fig. 5C

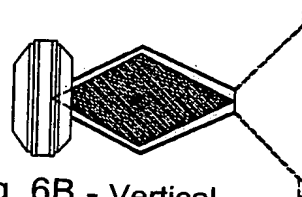**Fig. 6A - Horizontal cross section**

Fig. 6B - Vertical cross section

Fig. 6C

Fig. 6D

Fig. 7D - Reflection pattern on a hiperbolic surface – from above and cross section

Fig. 7C - Reflection pattern on a parabolic surface after the second throat plane - from above and cross section

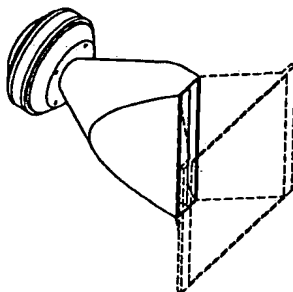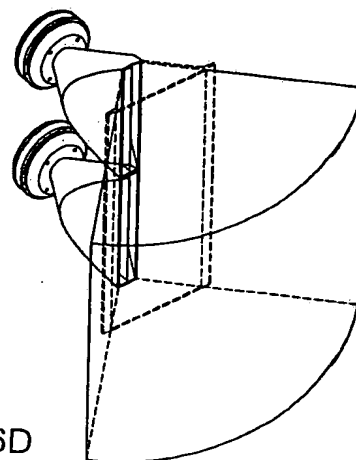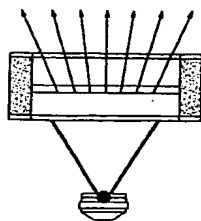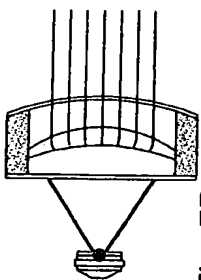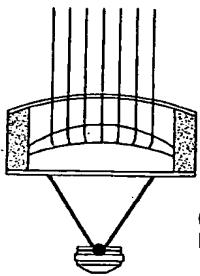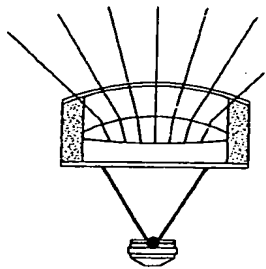Fig. 7B - Reflection pattern on a parabolic surface before the first throat plane - from above and cross section

Fig. 7A - Reflection pattern on a flat surface - from above and cross section
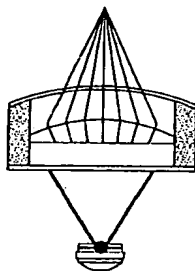
Fig. 7E - Reflection pattern on an elliptical surface – from above and cross section

Fig. 8C - Wave guide pattern with real (above) and theoretical (below) elliptical reflection surface
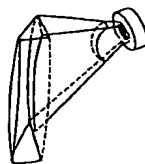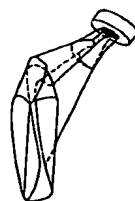
Fig. 8B - Wave guide pattern with real (above) and theoretical (below) hiperbolic reflection surface

Fig. 8A - Wave guide pattern with real (above) and theoretical (below) parabolic reflection surface
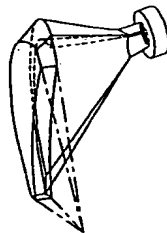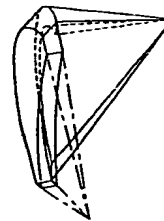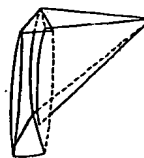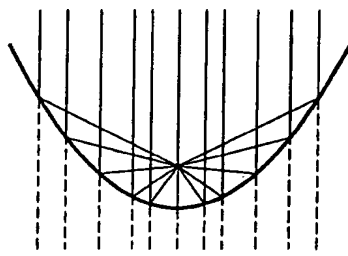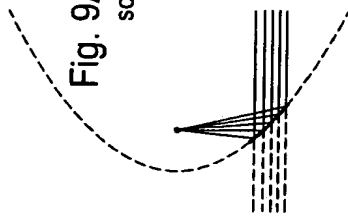
Fig. 9A1- Parabola section
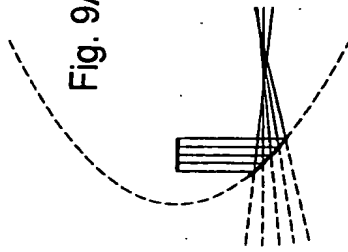
Fig. 9A2 - Effect of a point source on a segment
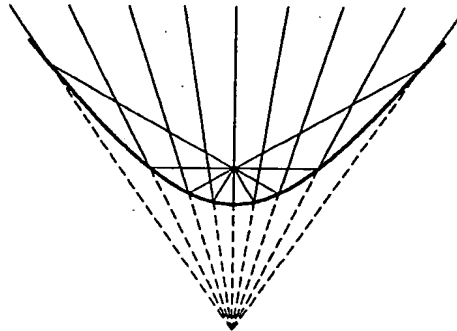
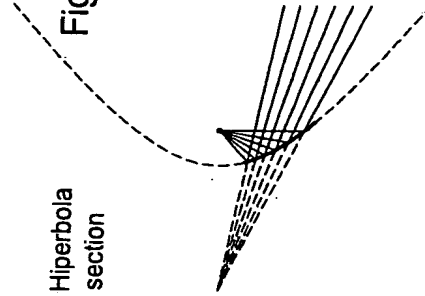Fig. 9A3 - Effect of a real source on a segment

Fig. 9B1 - Hiperbola section
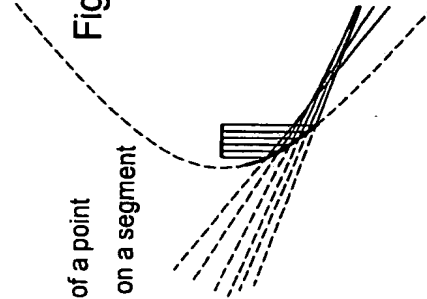
Fig. 9B2- Effect of a point source on a segment
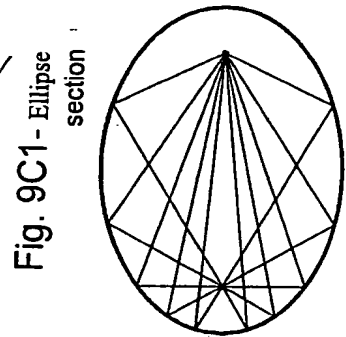
Fig. 9B3 - Effect of a real source on a segment

Fig. 9C1- Ellipse section

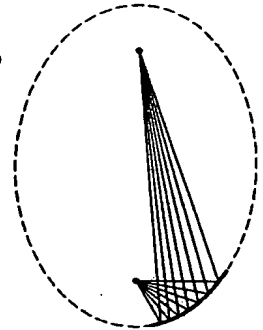Fig. 9C2 - Effect of a point source on a segment

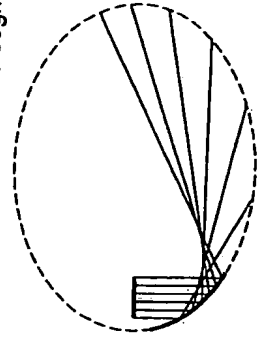Fig. 9C3 - Effect of a real source on a segment

Fig.10A

Focus F of the parabola
= "real" point source

Parabolic (convex)
reflection surface

Real flat souce

23

21

22

Fig. 10B

Flat reflection surface

24

23

21

22

Fig. 10C

Hyperbolic (concave)
Reflection surface

24

23

21

22

Fig. 10D

Parabolic (concave)
reflection surface

24

23

21

22

Fig. 10E

Point of arrival of
any acoustic path

Elliptical (concave)
reflection surface

24

23

21

22
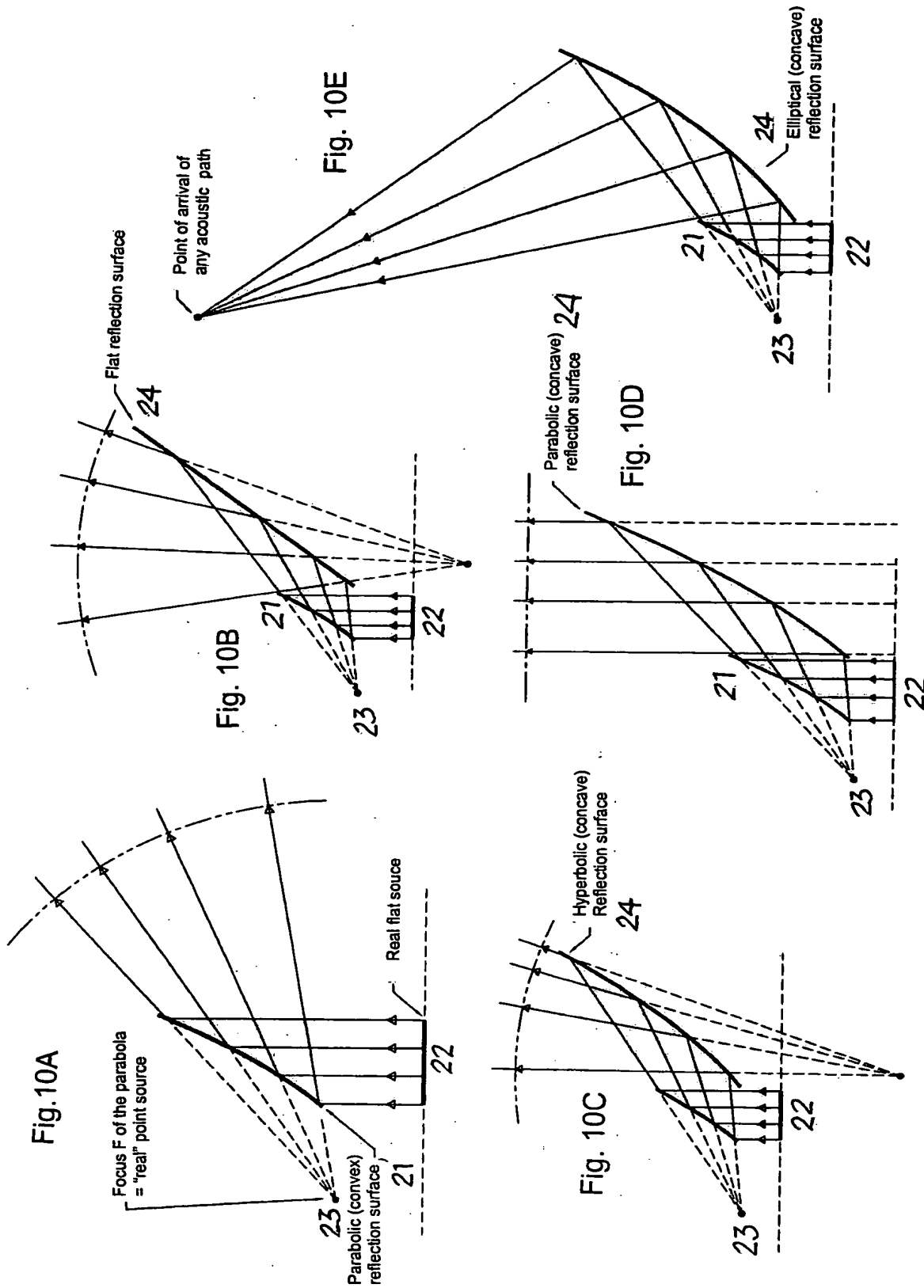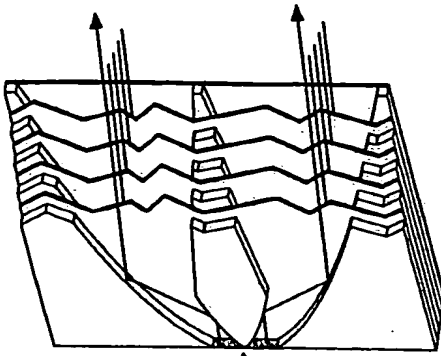
Partition for eliminating
inside reflections

Fig. 11C

22

Reflection surface

Fig. 11B

24

Emission plane

22

21

Parabolic reflection
surface

25

Flat reflection
surface

24

Fig. 12

21

22

23

Reflection surface

24

Fig.11A

21

22

Emission plane

Reflection surface
obtained by revolution

21

Fig. 11D

22

Emission plane

13C 13 13D

Fig. 13A

13E

13F

13B

Fig. 13A

13

13B

Fig. 14B

13B 13

Fig. 14A

10/517694

Fig. 15C

131

13B

132

130

13D

13E

13F

Fig. 15B

132 131

133

130

Fig. 15A

131 13

132

133

13B 13D

13E

13F

130